

=> d his

(FILE 'HOME' ENTERED AT 16:06:16 ON 11 OCT 2004)

FILE 'REGISTRY' ENTERED AT 16:06:24 ON 11 OCT 2004  
E ALLOPREGNANOLONE/CN  
L1 2 S E3

*updated  
search*

FILE 'CPLUS' ENTERED AT 16:07:34 ON 11 OCT 2004  
S 516-54-1/REG# OR 516-55-2/REG# OR ALLOPREGNANOLONE OR ALLOT

FILE 'REGISTRY' ENTERED AT 16:11:40 ON 11 OCT 2004  
L2 1 S 516-55-2/RN

FILE 'CPLUS' ENTERED AT 16:11:40 ON 11 OCT 2004  
L3 914 S L2

FILE 'REGISTRY' ENTERED AT 16:11:41 ON 11 OCT 2004  
L4 1 S 516-54-1/RN

FILE 'CPLUS' ENTERED AT 16:11:41 ON 11 OCT 2004

L5 765 S L4  
L6 1552 S L5 OR L3 OR ALLOPREGNANOLONE OR ALLOTETRAHYDROPROGESTERONE OR  
L7 10425 S (CNS OR (CENTRAL) (W) (NERVOUS) OR BRAIN) (2A) INJUR? OR CEREBRAL  
L8 10 S L6 AND L7  
L9 475 S L6 AND PROGESTERONE AND METABOLITE#  
L10 380 S L9 NOT PY>=2000

FILE 'MEDLINE, CPLUS, BIOSIS, EMBASE, SCISEARCH' ENTERED AT 16:49:45 ON  
11 OCT 2004

L11 2262 S L7(L) (SEISURE OR EPILEP?)  
L12 0 S (CNS OR (CENTRAL) (W) (NERVOUS) OR BRAIN) (2A) INJUR?(L) (SEISURE#

FILE 'MEDLINE' ENTERED AT 16:54:14 ON 11 OCT 2004

L13 583 S L11  
L14 376 S L13 NOT PY>=2000

=> s e3

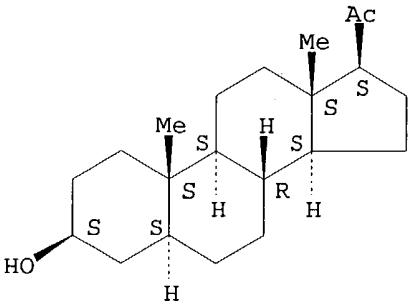
L1 2 ALLOPREGNANOLONE/CN

=> d rn str cn 1-2

L1 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2004 ACS on STN

RN 516-55-2 REGISTRY

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

CN Pregnan-20-one, 3-hydroxy-, (3 $\beta$ ,5 $\alpha$ )- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 5 $\alpha$ -Pregnan-20-one, 3 $\beta$ -hydroxy- (6CI, 8CI)

OTHER NAMES:

CN 3-Deoxo-3 $\beta$ -hydroxy-5 $\alpha$ -dihydroprogesterone

CN 3 $\beta$ -Allopregnanolone

CN 3 $\beta$ -Hydroxy-5 $\alpha$ ,17 $\beta$ -pregnan-20-one

CN 3 $\beta$ -Hydroxy-5 $\alpha$ -pregnan-20-one

CN 3 $\beta$ -Hydroxy-5 $\alpha$ -tetrahydroprogesterone

CN 5 $\alpha$ -Dihydropregnolone

CN 5 $\alpha$ -Pregnan-3 $\beta$ -ol-20-one

CN 5 $\alpha$ -Pregnane-3 $\beta$ -ol-20-one

CN Allopregn-3 $\beta$ -ol-20-one

CN **Allopregnanolone**

CN Isopregnanolone

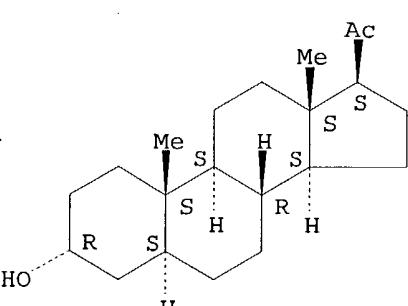
CN NSC 97078

CN U 0949

L1 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2004 ACS on STN

RN 516-54-1 REGISTRY

Absolute stereochemistry. Rotation (+).



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

CN Pregnan-20-one, 3-hydroxy-, (3 $\alpha$ ,5 $\alpha$ )- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 5 $\alpha$ -Pregnan-20-one, 3 $\alpha$ -hydroxy- (6CI, 8CI)

OTHER NAMES:

CN (+)- $3\alpha$ -Hydroxy- $5\alpha$ -pregnan-20-one  
CN ( $3\alpha$ )-Allopregnanolone  
CN  $3\alpha, 5\alpha$ -Pregnanolone  
CN  $3\alpha, 5\alpha$ -Tetrahydroprogesterone  
CN  $3\alpha, 5\alpha$ -THP  
CN  $3\alpha$ -Hydroxy- $5\alpha$ -dihydroprogesterone  
CN  $3\alpha$ -Hydroxy- $5\alpha$ -pregnan-20-one  
CN  $3\alpha$ -Hydroxy- $5\alpha$ -pregnane-20-one  
CN  $5\alpha$ -Pregnan- $3\alpha$ -ol-20-one  
CN  $5\alpha$ -Pregnane- $3\alpha$ -ol-20-one  
CN Allo pregnan- $3\alpha$ -ol-20-one  
CN **Allopregnanolone**  
CN Allotetrahydroprogesterone

=> d ibib abs 70,192,352-353,376,276 kwic

L14 ANSWER 70 OF 376 MEDLINE on STN  
ACCESSION NUMBER: 97263986 MEDLINE  
DOCUMENT NUMBER: PubMed ID: 9109858  
TITLE: Seizures, **epilepsy**, and functional recovery after traumatic **brain injury**: a reappraisal.  
AUTHOR: Hernandez T D; Naritoku D K  
CORPORATE SOURCE: Department of Psychology, University of Colorado, Boulder 80309, USA.  
SOURCE: Neurology, (1997 Apr) 48 (4) 803-6. Ref: 47  
Journal code: 0401060. ISSN: 0028-3878.  
PUB. COUNTRY: United States  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
General Review; (REVIEW)  
(REVIEW, TUTORIAL)  
LANGUAGE: English  
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals  
ENTRY MONTH: 199705  
ENTRY DATE: Entered STN: 19970523  
Last Updated on STN: 19970523  
Entered Medline: 19970515  
TI Seizures, **epilepsy**, and functional recovery after traumatic **brain injury**: a reappraisal.

L14 ANSWER 192 OF 376 MEDLINE on STN  
ACCESSION NUMBER: 90184900 MEDLINE  
DOCUMENT NUMBER: PubMed ID: 2179001  
TITLE: **Epilepsy in brain-injured children.**  
AUTHOR: Aicardi J  
CORPORATE SOURCE: Departement de Pediatrie, Hopital Necker Enfants Malades, Paris, France.  
SOURCE: Developmental medicine and child neurology, (1990 Mar) 32 (3) 191-202. Ref: 97  
Journal code: 0006761. ISSN: 0012-1622.  
PUB. COUNTRY: ENGLAND: United Kingdom  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
General Review; (REVIEW)  
(REVIEW, TUTORIAL)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 199004  
ENTRY DATE: Entered STN: 19900601  
Last Updated on STN: 19900601  
Entered Medline: 19900423  
TI **Epilepsy in brain-injured children.**

L14 ANSWER 352 OF 376 MEDLINE on STN  
ACCESSION NUMBER: 60038787 MEDLINE  
DOCUMENT NUMBER: PubMed ID: 13719209  
TITLE: Clinical and EEG considerations on post-traumatic epilepsy.  
AUTHOR: D'ERRICO P  
SOURCE: Annali di medicina navale, (1960 Nov-Dec) 65 627-36.  
Journal code: 0373072. ISSN: 0392-9418.  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: Italian  
FILE SEGMENT: OLDMEDLINE  
ENTRY MONTH: 199811  
ENTRY DATE: Entered STN: 19990716  
Last Updated on STN: 19990716  
Entered Medline: 19981101  
ST **brain - wounds and injuries; epilepsy - etiology**

L14 ANSWER 353 OF 376 MEDLINE on STN  
ACCESSION NUMBER: 59003191 MEDLINE  
DOCUMENT NUMBER: PubMed ID: 13573860

TITLE: Case study of traumatic epilepsy.  
AUTHOR: SOUDER C L  
SOURCE: Delaware medical journal, (1958 Aug) 30 (8) 223-4.  
Journal code: 0370077. ISSN: 0011-7781.  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: OLDMEDLINE  
OTHER SOURCE: CLML5935-3190-104-201  
ENTRY MONTH: 200007  
ENTRY DATE: Entered STN: 20000825  
Last Updated on STN: 20000825  
Entered Medline: 20000701  
ST brain - wounds and injuries; epilepsy -  
etiology and pathogenesis

L14 ANSWER 376 OF 376 MEDLINE on STN  
ACCESSION NUMBER: 51000171 MEDLINE  
DOCUMENT NUMBER: PubMed ID: 14770621  
TITLE: Seizures, head injuries and litigants.  
AUTHOR: HYSLOP G H  
SOURCE: A. M. A. archives of neurology and psychiatry, (1950 Nov)  
64 (5) 736-8.  
Journal code: 14470130R. ISSN: 0096-6886.  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: OLDMEDLINE  
OTHER SOURCE: CLML5120-171-9-138-310-498  
ENTRY MONTH: 200402  
ENTRY DATE: Entered STN: 20040300  
Last Updated on STN: 20040300  
Entered Medline: 20040215  
ST brain injury; epilepsy; jurisprudence,  
medical; malingering

L14 ANSWER 276 OF 376 MEDLINE on STN  
ACCESSION NUMBER: 66159235 MEDLINE  
DOCUMENT NUMBER: PubMed ID: 4223186  
TITLE: [On evaluation of epilepsy following closed  
brain injury].  
Zur Beurteilung der Epilepsie nach gedeckter  
Hirnverletzung.  
AUTHOR: Link K  
SOURCE: Monatsschrift fur Unfallheilkunde, Versicherungs-,  
Versorgungs- und Verkehrsmedizin, (1965 Dec) 68 (12)  
539-46.  
Journal code: 7505682. ISSN: 0026-9336.  
GERMANY, WEST: Germany, Federal Republic of  
(CASE REPORTS)  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: German  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 196610  
ENTRY DATE: Entered STN: 19900101  
Last Updated on STN: 19900101  
Entered Medline: 19661002  
TI [On evaluation of epilepsy following closed brain  
injury].  
Zur Beurteilung der Epilepsie nach gedeckter Hirnverletzung.

=> s 16 and 17  
L8 10 L6 AND L7

=> d ibib abs 1-10

L8 ANSWER 1 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN  
ACCESSION NUMBER: 2004:776908 CAPLUS  
TITLE: Progesterone and **allopregnanolone** reduce inflammatory cytokines after traumatic **brain injury**  
AUTHOR(S): He, Jun; Evans, Chheng-Orn; Hoffman, Stuart W.; Oyesiku, Nelson M.; Stein, Donald G.  
CORPORATE SOURCE: Department of Psychology, Emory University, Atlanta, GA, 30322, USA  
SOURCE: Experimental Neurology (2004), 189(2), 404-412  
CODEN: EXNEAC; ISSN: 0014-4886  
PUBLISHER: Elsevier  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Following a traumatic **brain injury** (TBI), the excessive release of interleukin-1 $\beta$  (IL-1 $\beta$ ) and tumor necrosis factor  $\alpha$  (TNF- $\alpha$ ) is a major cause of **cerebral edema**, which, in turn, can cause permanent neuronal loss and cognitive deficits in laboratory rats. This study examined the changes in expression of the proinflammatory cytokines IL-1 $\beta$  and TNF- $\alpha$  after progesterone (8 mg/kg) or **allopregnanolone** (4 mg/kg) treatment in **brain-injured** rats at 3, 8, and 12 h and 6 days post-injury. Adult male rats received either bilateral prefrontal cortical contusion or sham surgery. The hormones were given i.p. at 1 and 6 h, and continued once per day for up to 5 days. The gene expression of IL-1 $\beta$  and TNF- $\alpha$  was measured by mRNA using real-time quant. reverse transcribed polymerase chain reaction (RT-PCR). The protein concns. of IL-1 $\beta$  and TNF- $\alpha$  were measured using ELISA (ELISA) to confirm the translation from mRNA to protein. The results indicated that progesterone and **allopregnanolone** reduce both IL-1 $\beta$  and TNF- $\alpha$  at 3 h post-injury, when the expression of these cytokines peaks. At 8 and 12 h post-injury, IL-1 $\beta$  and TNF- $\alpha$  gene expression in injured rats was still elevated compared to shams. By the sixth day post-injury, cytokine expression was back to the level of intact rats. We conclude that progesterone and **allopregnanolone** may attenuate the production of proinflammatory cytokines early after TBI, and this may be one mechanism by which progesterone and **allopregnanolone** reduce **cerebral edema** and promote functional recovery from TBI.

L8 ANSWER 2 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN  
ACCESSION NUMBER: 2004:370947 CAPLUS  
DOCUMENT NUMBER: 140:391399  
TITLE: Preparation of steroids comprising superoxide dismutase mimic groups and nitric oxide donor groups for therapeutic use in pharmaceutical compositions  
INVENTOR(S): Haj-Yehia, Abdullah Ibrahim  
PATENT ASSIGNEE(S): Yissum Research Development Company of the Hebrew University of Jerusalem, Israel  
SOURCE: PCT Int. Appl., 138 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004037843	A2	20040506	WO 2003-IL878	20031024
WO 2004037843	A3	20040610		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK,				

LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ,  
OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ,  
BY, KG, KZ, MD

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,  
CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC,  
NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:

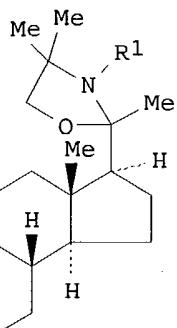
US 2002-421272P

P 20021025

OTHER SOURCE(S) :

MARPAT 140:391399

GI



I

RO

AB This invention relates to methods and devices for administering and to the preparation of multifunctional nitrato-DOXYL-steroids, of the general form R-(ONO<sub>2</sub>)<sub>n</sub> [R = steroid containing a heterocyclic nitrogen bonded oxyl radical; n = 1, 2, 3, etc.] combining a steroid component with SOD mimic component and optionally also with a NO donor component, for therapeutic use in treating and preventing disorders associated with oxidative stress and free radical injury, or disorders in which treatment with steroids is indicated, whereas such combination increases the efficacy of treatment and reduces side effects associated with steroid treatment and for treating disorders in which treatment with a smooth muscle relaxant is indicated. The prepared DOXYL-steroids were claimed for use in treating or preventing a disorder selected from the group consisting of respiratory, pulmonary, cardiovascular, inflammatory, and autoimmune disorders. These disorders include asthma, chronic bronchitis, bronchiectasis, bronchospasms, emphysema, chronic obstructive pulmonary diseases (COPD), bronchial hyperreactivity, respiratory distress syndrome or chronic obstructive airway disease (COAD), allergic conditions, arthritis, autoimmune hematol. disorders, systemic lupus erythematosus, systemic dermatomyositis, thrombocytopenia, psoriasis, contact dermatitis, atopic dermatitis, exfoliative dermatitis, acne, hirsutism, erythema nodosum, inflamed cysts, discoid lupus, bullous diseases, collagen vascular diseases, malignancies, neoplastic disease, trauma, shock, acute and chronic inflammatory conditions, sarcoidosis, Sweet's disease, graft-vs.-host disease, multiple sclerosis, Alzheimer's diseases, Parkinson's diseases, amyotrophic lateral sclerosis, convulsive disorders, AIDS-dementia, and disorders related to learning. Also, included are disorders related to olfaction, disorders related to nociception, **cerebral edema**, migraine, ophthalmic disorders, chronic adrenal insufficiency, congenital adrenal hyperplasia, gastrointestinal diseases, hepatic diseases, inflammatory bowel disease, Crohn's disease, ulcerative colitis, renal disease, gastric secretory and peristaltic functions, drug and disease-induced neuropathies and nephropathies, pathol. uterine contractions, sinus tachycardia, ischemic heart disease, angina pectoris, myocardial infarction, congestive heart failure, atherosclerosis, rheumatic disorders, hypertension, arrhythmia, hyperthyroidism, cellular defense impairment, hypercholesterolemia, Reaven's Syndrome, vasculitis, arteritis, endothelial dysfunction-induced diseases, diabetes mellitus, insulin-resistance and glucose intolerance in diabetes, ischemia-reperfusion tissue injury, chemotaxis and phagocytic impairment in immunol. disorders, aging-mediated changes, cerebrovascular diseases,

thyrotoxicosis, aggregation disorders, fertility conditions and reproductive disorders, menopause, ovarian dysfunction, testicular dysfunction, and penile erection. Thus, nitrato-DOXYL-steroid I (R = NO<sub>2</sub>, R<sub>1</sub> = O.) was prepared via a synthetic sequence which included cyclization of pregnenolone with 2-amino-2-methylpropanol by refluxing 24 h using PTSA to form steroidal oxazolidine I (R = R<sub>1</sub> = H) in 92% yield, oxidation of the steroidal oxazolidine with Na<sub>2</sub>WO<sub>4</sub>, H<sub>2</sub>O<sub>2</sub> and EDTA at rt for 5 days to give DOXYL-steroidal alc. I (R = H, R<sub>1</sub> = O.) in 84% yield, and finally, treatment of the DOXYL-steroidal alc. with N<sub>2</sub>O<sub>4</sub> gas in THF and Et<sub>2</sub>O at rt for 10-24 h to give the target nitrato-DOXYL-steroid in 98% yield. The DOXYL-steroids were assayed in vitro using a model of biol. response for asthma for relaxation of tracheal rings from guinea pigs.

L8 ANSWER 3 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2004:317585 CAPLUS

DOCUMENT NUMBER: 141:65322

TITLE: **Allopregnanolone**, a progesterone metabolite, enhances behavioral recovery and decreases neuronal loss after traumatic **brain injury**

AUTHOR(S): He, Jun; Hoffman, Stuart W.; Stein, Donald G.

CORPORATE SOURCE: Department of Psychology, Emory University, Atlanta, GA, 30322, USA

SOURCE: Restorative Neurology and Neuroscience (2004), 22(1), 19-31

CODEN: RNNEEL; ISSN: 0922-6028

PUBLISHER: IOS Press

DOCUMENT TYPE: Journal

LANGUAGE: English

AB In the current study the authors investigated whether **allopregnanolone**, a metabolite of progesterone, could replicate progesterone's beneficial effects in promoting spatial learning ability after bilateral medial prefrontal cortex contusions in rats.

**Allopregnanolone** was shown to enhance GABA neurotransmission, whereas its isomer epiallopregnanolone does not have this property. Thus, epiallopregnanolone was chosen as a control substance to examine further the role of GABA transmission in post-trauma neuroprotection. After the contusion, rats were given 4 mg/kg treatment of either **allopregnanolone** or epiallopregnanolone for 5 consecutive days beginning 1h post-injury. Control groups only received vehicle treatment at the same time points. A spatial learning task (Morris Water Maze, MWM) was performed at 7 days post-injury for 10 days. Subsequent histol. analyses of brain tissue were conducted to determine quant. the neuronal losses in both the mediodorsal nucleus of the thalamus (MDN) and the nucleus basalis magnocellularis (NBM). **Allopregnanolone**-treated rats showed better performance in the MWM compared to the vehicle-treated injury group. The histol. analyses also revealed that the **allopregnanolone**-treated injury group had less neuronal loss in both the MDN and the NBM compared to the vehicle-treated injury group. In contrast, epiallopregnanolone did not facilitate MWM performance or reduce neuronal loss in the MDN and the NBM after TBI. Based on these findings, the authors suggest that **allopregnanolone** may mediate the effects of progesterone in promoting cognitive and morphol. recovery from TBI through, among others, its direct or indirect effects on GABA-modulated neurons in the MDN and the NBM.

REFERENCE COUNT: 59 THERE ARE 59 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 4 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2004:212936 CAPLUS

DOCUMENT NUMBER: 141:66617

TITLE: Chronic prenatal ethanol exposure alters hippocampal GABA<sub>A</sub> receptors and impairs spatial learning in the guinea pig

AUTHOR(S): Iqbal, U.; Dringenberg, H. C.; Brien, J. F.; Reynolds, J. N.

CORPORATE SOURCE: Department of Pharmacology and Toxicology, Queen's University, Kingston, ON, K7L 3N6, Can.

SOURCE: Behavioural Brain Research (2004), 150(1-2), 117-125

AB Chronic prenatal ethanol exposure (CPEE) can injure the developing brain, and may lead to the fetal alc. syndrome (FAS). Previous studies have demonstrated that CPEE upregulates  $\gamma$ -aminobutyric acid type A (GABA<sub>A</sub>) receptor expression in the cerebral cortex, and decreases functional synaptic plasticity in the hippocampus, in the adult guinea pig. This study tested the hypothesis that CPEE increases GABA<sub>A</sub> receptor expression in the hippocampus of guinea pig offspring that exhibit cognitive deficits in a hippocampal-dependent spatial learning task. Timed, pregnant guinea pigs were treated with ethanol (4 g/kg maternal body weight per day), isocaloric-sucrose/pair-feeding, or water throughout gestation. GABA<sub>A</sub> receptor subunit protein expression in the hippocampus was measured at two development ages: near-term fetus and young adult. In young adult guinea pig offspring, CPEE increased spontaneous locomotor activity in the open-field and impaired task acquisition in the Morris water maze. CPEE did not change GABA<sub>A</sub> receptor subunit protein expression in the near-term fetal hippocampus, but increased expression of the  $\beta$ 2/3-subunit of the GABA<sub>A</sub> receptor in the hippocampus of young adult offspring. CPEE did not change either [<sup>3</sup>H]flunitrazepam binding or GABA potentiation of [<sup>3</sup>H]flunitrazepam binding, but decreased the efficacy of **allopregnanolone** potentiation of [<sup>3</sup>H]flunitrazepam binding, to hippocampal GABA<sub>A</sub> receptors in adult offspring. Correlational anal. revealed a relationship between increased spontaneous locomotor activity and growth restriction in the hippocampus induced by CPEE. Similarly, an inverse relationship was found between performance in the water maze and the efficacy of **allopregnanolone** potentiation of [<sup>3</sup>H]flunitrazepam binding in the hippocampus. These data suggest that alterations in hippocampal GABA<sub>A</sub> receptor expression and pharmacol. properties contribute to hippocampal-related behavioral and cognitive deficits associated with CPEE.

REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2003:1010568 CAPLUS

DOCUMENT NUMBER: 140:193436

TITLE: **Allopregnanolone** and progesterone decrease cell death and cognitive deficits after a contusion of the rat pre-frontal cortex

AUTHOR(S): Djebaili, M.; Hoffman, S. W.; Stein, D. G.

CORPORATE SOURCE: Cell Biology Building, Department of Emergency Medicine, Brain Research Laboratory, Emory University, Atlanta, GA, 30322, USA

SOURCE: Neuroscience (Oxford, United Kingdom) (2004), 123(2), 349-359

PUBLISHER: CODEN: NRSCDN; ISSN: 0306-4522

DOCUMENT TYPE: Elsevier Science Ltd.

LANGUAGE: Journal

English

AB We compared the effects of three different doses of **allopregnanolone** (4, 8 or 16 mg/kg), a metabolite of progesterone, to progesterone (16 mg/kg) in adult rats with controlled cortical impact to the prefrontal cortex. Injections were given 1 h, 6 h and every day for 5 consecutive days after the injury. One day after injury, both progesterone-treated (16 mg/kg) and **allopregnanolone** (8 or 16 mg/kg)-treated rats showed less caspase-3 activity, and rats treated with **allopregnanolone** (16 mg/kg) showed less DNA fragmentation in the lesion area, indicating reduced apoptosis. Nineteen days after the injury, rats treated with progesterone and **allopregnanolone** (8 or 16 mg/kg) showed no difference in necrotic cavity size but had less cell loss in the medio-dorsal nucleus of the thalamus and less learning and memory impairments compared with the injured vehicle-treated rats. On that same day the injured rats treated with progesterone showed more weight gain compared with the injured rats treated with the vehicle. These

results can be taken to show that progesterone and **allopregnanolone** have similar neuroprotective effects after traumatic **brain injury**, but **allopregnanolone** appears to be more potent than progesterone in facilitating CNS repair.

REFERENCE COUNT: 71 THERE ARE 71 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 6 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2003:821365 CAPLUS

DOCUMENT NUMBER: 140:350664

TITLE: Progesterone in the nervous system: an old player in new roles

AUTHOR(S): Guennoun, R.; De Nicola, A. F.; Schumacher, M.; Baulieu, E. E.

CORPORATE SOURCE: INSERM U488, Bicetre, 94276, Fr.

SOURCE: Hormone Replacement Therapy and the Brain: Current Status of Research and Practice, [based on a Workshop on HRT in Climacteric and Aging Brain], Pisa, Italy, Mar. 15-18, 2003 (2003), 57-71. Editor(s): Gennazzani, Andrea R. Parthenon Publishing Group Ltd.: London, UK.

CODEN: 69ERC8; ISBN: 1-84214-168-6

DOCUMENT TYPE: Conference; General Review

LANGUAGE: English

AB A review on progesterone, its precursor pregnenolone, and its reduced metabolites  $5\alpha$ -dihydroprogesterone and  $3\alpha,5\alpha$ -tetrahydroprogesterone (**allopregnanolone**) with respect to their biosynthesis and effects in the peripheral and central nervous systems is presented. The review concludes that progesterone, originating either from peripheral glands or synthesized totally in the nervous system, has pos. effects on myelination and neuroprotection. Progesterone effects are pleiotropic and can be achieved via different mechanisms involving different receptors.

REFERENCE COUNT: 101 THERE ARE 101 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 7 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2003:650477 CAPLUS

DOCUMENT NUMBER: 140:229650

TITLE: The effects and mechanisms of **allopregnanolone** on promoting behavioral recovery after traumatic **brain injury**

AUTHOR(S): He, Jun

CORPORATE SOURCE: Emory Univ., Atlanta, GA, USA

SOURCE: (2002) 105 pp. Avail.: UMI, Order No. DA3072634

From: Diss. Abstr. Int., B 2003, 63(11), 5563

DOCUMENT TYPE: Dissertation

LANGUAGE: English

AB Unavailable

L8 ANSWER 8 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:293431 CAPLUS

DOCUMENT NUMBER: 136:304454

TITLE: Methods for the treatment of a traumatic **central nervous system**

**injury**

INVENTOR(S): Stein, Donald Gerald; Hoffman, Stuart Wayne

PATENT ASSIGNEE(S): Emory University, USA

SOURCE: PCT Int. Appl., 52 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----

AUTHOR(S) : model of epilepsy  
Frye, C. A.  
CORPORATE SOURCE: Psychology Department, Bates College, Lewiston, ME  
04240, USA and Biology Department, Boston University,  
Boston, MA, 02215, USA  
SOURCE: Brain Research (1995), 696(1,2), 113-20  
CODEN: BRREAP; ISSN: 0006-8993  
PUBLISHER: Elsevier  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
AB Some anticonvulsant drugs may suppress seizures by enhancing activity of GABAergic systems. Progesterone (P)'s anti-convulsant and neuroprotective effects may be due to the steroid's actions on GABA-A-benzodiazepine receptor complexes (GBRs) rather than intracellular progestin receptors (PRs), as many P metabolites have a greater effect *in vitro* on benzodiazepine binding and Cl<sup>-</sup> flux than P, but poor affinity for PRs. If P's actions are due to metabolism to a progestin more potent at GBRs, then systemic administration of one of those P metabolites should also prevent CNS damage. To test this hypothesis male rats were implanted with a bipolar electrode, aimed above the perforant pathway. Exptl. animals received the 5 $\alpha$ -reduced P metabolite most effective at GBRs, 5 $\alpha$ -pregnan-3 $\alpha$ -ol-20-one (3 $\alpha$ ,5 $\alpha$ -THP) 2.5 mg/kg s.c., 3 h prior to perforant pathway stimulation, while control animals received sesame oil vehicle. The duration of chewing and drooling, and the incidence of wet dog shakes, partial and full seizures were reduced during perforant pathway stimulation in animals pre-treated with 3 $\alpha$ ,5 $\alpha$ -THP compared to vehicle. Two weeks later, animals pre-treated with 3 $\alpha$ ,5 $\alpha$ -THP had shorter latencies and distances to find a hidden platform in a Morris Water maze task. 3,5-THP pre-treatment also reduced damage to CA1 and CA3 layers of the hippocampus and preserved the number of neurons in the hilar region. These data indicate that the neurosteroid metabolite of P, 3 $\alpha$ ,5 $\alpha$ -THP, can have anticonvulsant and may have neuroprotective effects in an animal model of epilepsy. Further, these data suggest that the mechanism of P's protective and anticonvulsant effects may be via GBRs rather than PRs.